ENSP – Environmental Economics

Reviewed March 2023

NOTE: always refer to the Schedule of Classes on Testudo for the most up-to-date information regarding course offerings, prerequisites and restrictions.

Title	Offered	Grade
Intro to Env Science	Fa	
1	Sp	
Senior Capstone	Fa,Sp	
	Sp	
~	Fa	
Environmental Eavi	Fa, Sp	
	Fa	
	Sp	
	TBA	
Environmental Justice	Sp	
		Grade
	7 1 7	
Calculus I (recommended)	Fa,Sp,Su	
		Grade
See page 2.		
		Intro to Env Science Intro to Env Policy Senior Capstone Applied Spatial Methods Qual Research/Env Sci Environmental Law Sci, Ethics, Law: Water Oceans: Integ. Policy Energy: Science & Policy Environmental Justice Elementary Calculus Calculus I (recommended) Fa Sp Fa,Sp,Su Fa,Sp,Su Fa,Sp,Su

Four (4) courses from the 5 groups below:

Biology			Grade
BSCI160/161 (NL)	Ecology & Evolution/Lab	Fa,Sp,Su	
Chemistry			Grade
CHEM131/132 (NL)	Gen Chemistry I/Lab	Fa,Sp,Su	
Earth Sci (pick one)			Grade
AOSC200/201 (NL	Weather & Climate/Lab	Fa,Sp	
ENST200 (NL)	Fund of Soil Science	Fa, Sp	
GEOG201/211 (NL)	Geog Environ Sys/Lab*	Fa,Sp,Su	
GEOL100/110 (NL)	Physical Geology/Lab	Fa,Sp,Su	
GEOL120/110	Environmental Geology	Fa,Sp	
	*recommended		
Economics (pick			
one, req'd)			
AREC240 (HS)	Intro to Econ and Env	Sp	
AREC241 (HS, IS)	Env. Econ, and Policy	Fa	
ECON200 (HS)	Princ of Micro-Econ	F,S,Su,W	
Geography (pick one)		, , , , , , , , , , , , ,	•
GEOG130 (HS)	Developmental Geography	Fa,Su	
GEOG140 (IS)	Natural Disasters	Fa, Sp	
GEOG170 NS)	Meth of Geospatial Anal	Fa	
GEOG202 (CC)	Intro to Human Geog	Sp	
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ENSP Graduation Requirements

____ Students must earn <u>C- or higher</u> in all courses used for ENSP Core and Concentration requirements.

__ Students' major GPA must be 2.0 or higher.

General Education Fundamental Studies (15 credits)

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Requirements	Course	Cr
Academic Writing (AW)		3
Professional Writing (PW)		3
Oral Communication (OC)		3
Math (MA)	Calculus	3-4
Analytical Reasoning (AR)		

Distributive Studies (25 credits)

Requirements	Course	Cr
Natural Sciences w/Lab (NL)	ENSP Lab Sci	4
Natural Science (NS)	ENSP 101	3
History and/or Social Sci (HS1)	ENSP 102	3
History and/or Social Sci (HS2)	ECON201	4
Humanities (HU1)		3
Humanities (HU2)		3
Scholarship in Practice (SP, major)	ENSP 400	3
Scholarship in Practice (SP, non-major)		3

I-Series (6 credits)*

* May double-count with Distributive Studies

Requirements	Course	Cr
I- Series (IS)		3
I- Series (IS)		3

Diversity (4-6 credits)*

* May double-count with Distributive Studies

Requirements	Course	Cr
Understanding Plural Societies (UP)		3-6
Understanding Plural Societies (UP) or		
Cultural Competency (CC)		0-3

Experiential Learning (0-3 credits)*

* May overlap with major requirements

Requirements	Course	Cr
Practical experience is not required, but is strongly recommended.		

Graduation Requirements

- Up to 6 AP courses may be used for Gen Ed
- No more than 60 credits earned from Community College
- Last 30 credits must be earned at Maryland
- ____ 120+ cumulative credits and 2.0+ cum GPA

REQUIREMENTS:

ECONOMICS FOUNDATION - Choose Track 1 or Track 2. (4 courses, 12-13 credits)

TRACK 1: Preparation for PhD programs in Economics and quantitative careers that <u>produce</u> economic analysis. Students

who choose this track should strongly consider Area 4 Restricted Electives and/or a Minor in Mathematics.

Course	Description	Cr	Offered	Prerequisites	Grade
ECON201	Princ of Macro-Economics	3	F,Sp		
MATH141	Calculus II	4	F,Sp	MATH140	
ECON321* or	Economic Statistics	3	F,W,Sp,Su	ECON200, ECON201, and ECON300**	
STAT400 *	Applied Probability and Statistics I	3	F,Sp	MATH141	
ECON326	Intermediate Microecon Analysis	3	F,Sp	ECON200, ECON201, and ECON300**	

^{*} These courses fill the ENSP Core Statistics requirement

TRACK 2: Preparation for Master's programs in Public Policy, Law, and careers that involve decision-making <u>informed by</u> economic analysis.

Course	Description	Cr	Offered	Prerequisites	Grade
ECON201	Princ of Macro-Economics	3	F,Sp		
ECON230* or	Applied Econ Statistics	3	F,Sp	ECON200 and 201; MATH111 or	
BMGT230*	Business Statistics	3	F,Sp,Su	MATH220;	
One from:					
MATH141	Calculus II	3	F, Sp	MATH140	
ECON424	Applied Econometrics	3	F, Sp	ECON305 or ECON306, and ECON230 or BMGT230	
AREC422	Econometric Analysis in Ag & Env	3	F, Sp	AREC326 or ECON326	
AREC380	EconData Science for Env .& Res.Econ.	3	F	ECON200 or equiv.	
AREC382	Computer-Based Anal in AREC	3	Sp	60 credits	
ENSP305**	Applied Quant. Methods in Env Sci	3	Sp		
ENSP306**	Applied Qual Methods in Env Sci.	3	Sp		
AREC326	Interm Applied Microecon	3	F,Sp	ECON200 (or AREC240) and 201; Calculus I	
1	1 **		, 1	(MATH220, 130, or 140); and ECON300	1

^{*} These courses fill the ENSP Core Statistics requirement

RESTRICTED ELECTIVES <u>INSIDE</u> ECONOMICS (5 courses, 15 credits) <u>Note</u>: courses selected here may not "double-count" with other concentration requirements.

Choose four (4): .

AREC422 or	Econometrics	3	TBA	ECON326 <u>or</u> AREC326	
ECON422	Econometrics I **	3	F, Sp	ECON 321 and ECON 326.	
AREC453	Natural Resources and Public Policy	3	F	ECON326 or AREC326	
AREC454	Economics of Climate Change	3	Sp	ECON326 or AREC326	
AREC455	Economics of Land Use	3	F	ECON326 or AREC326	
AREC456	Energy and Environ Economics	3	Sp	ECON326 or AREC326	
AREC466	Transp. Engineering, Econ, & Policy	3	Sp	MATH120 or 140; ECON200 & ECON230 or BMGT230	
AREC481 or ECON481	Environmental Econ	3	Sp	ECON306 (or ECON326), & ECON230 or BMGT230	
ECON454	Theory of Publ. Fin. & Fiscal Fed	3	F, Sp	ECON306 (or ECON326) and ECON230, BMGT230, or ECON321	

Choose one (1):

AREC365	Hunger, Pop, and Food Supplies	3	Sp, F		
AREC380 or	Data Science for Env & Res Econ	3	Sp		
ENSP305	Applied Quant Methods in ENSP	3	Sp	60 credits, Calculus and Statistics	
AREC430	Intro to Agric and Resource Law	3	Fa		
AREC433	Food and Agricultural Policy	3	F	ECON326 or AREC326	
AREC445	Agric Dev., Pop Growth, & Env.	3	Sp	ECON326 or AREC326	
AREC489L	Ag Water Qual: Policy/Legal Issues	3	Sp		
ECON454	Theory of Publ. Fin. & Fiscal Fed	3	F, Sp	ECON306 (or ECON326) and ECON230, BMGT230, or ECON321	
ECON456	Law and Economics **	3	Sp	ECON326 and [ECON230 or BMGT230].	

^{**} Due to severe over-enrollment in Economics, ENSP students should prepare to enroll in AREC courses in this category.

RESTRICTED ELECTIVES OUTSIDE ECONOMICS: At least 12 credits in one (1) supporting area below. Other courses are allowed as Restricted Electives with advisor approval in advance. Note: courses selected here may not "double-count" with other concentration requirements.

^{**} ECON300 can be replaced with MATH241 + any statistics course

^{**}Cannot double count with ENSP Applied Science and Policy requirement

>>> Area 1. Social Science. At least 9 credits must be 300- or 400-level.

Course	Description	Cr	Offered	Prerequisites/Notes	Grade
AGNR301/PLCY30	Sustainability	3	F. Sp		
1					
ANTH266	Changing Climate, Changing Cultures	3	F		
ANTH450	Theory & Practice of Environ Anthro	3	varies		
ANTH451	Environmental Archeology	3	F		
ANTH452	Anthropology and Climate Change	3	varies		
GEOG335 or 435	Population Geography – renumbered	3	varies		
ENSP386	Internship	3	F, Sp, Su	May use FGSM398 in its place	
ENST436	Emerging Environmental Threats	3	varies		
FIRE298	FIRE Sem. 3: Sustainability Analytics	3	F	Sustainability Analytics track only	
FGSM340	Energy and Environmental Policy	3	F	Must be in Federal Fellows program	
GEOG301	Advanced Geographical Environ. Systems	3	Sp		
GEOG330	Society & Sust. in a Time of Great Change	3	F, W, Su		
GEOG331	Intro to Human Dimen of Global Chng	3	Sp	GEOG201 or 202; or ANTH220 or 260	
GEOG332	Economic Geography	3	F		
GEOG373	Geographic Information Systems	3	F, Sp,Su,W		
GEOG415	Land Use, Climate Change and Sust	3	Sp	GEOG 306 or permission.	
GEOG416	Concep. & Modeling Human-Env. Interactions	3	varies	MATH120 or MATH140	
GEOG417	Land Cover Characterization/Remotely Sensed Data Sets	3	varies		
GEOG421	Regional Geography: China	3	varies		
GEOG422	Regional Geogy: Sub-Saharan Africa	3	varies		
GEOG423	Regional Geography: Latin America	3	varies		
GEOG430	Climate, Energy, and Policy	3	Sp		
GEOG431	Culture and Natural Resource Mgt	3	F		
GEOG437	Political Geography	3	varies	-	
GVPT200	International Political Relations	3	Sp,Su,F,w	GVPT 100 or ENSP102	
GVPT273	Intro to Environmental Politics	3	Sp		
GVPT306	Global Ecopolitics	3	Sp	GVPT 200	
GVPT406	International Political Economy	3	F	GVPT 200	
HIST405	Environmental History	3	varies		
SOCY410	Social Demography	3	Sp, F	6 credits of sociology or dept perm	
SOCY415	Environmental Sociology	3	F	6 credits of sociology or dept perm.	

>>> Area 2. Earth Science

Course	Description	Cr	Offered	Prerequisites/Notes	Grade
AOSC375/GEOL375	Intro to the Blue Ocean	3	F	MATH 120 or 140	
AOSC347	Computing/Analysis: Deciphering Climate Change	3	varies		
AOSC401	Climate Dynamics/Earth System Science	3	Sp		
AOSC424	Remote Sensing of the Atmosphere & Ocean	3	Sp	C- from (PHYS171, PHYS161, or MATH141); or perm.of instructor	
AOSC434	Air Pollution	3	3	MATH241; or permission of AOSC	
AOSC437	Global Climate Change: Past and Present	3	varies		
AOSC447	Machine Learning in Earth Science	3	Sp	MATH140	
CHEM231/231	Organic Chemistry I	3/1	Sp, F	CHEM131/132	
ENSP386	Internship	3	F, Sp, Su	May use FGSM398 in its place	
ENST200	Fundamentals of Soil Science	4	F, Sp	CHEM131/132 strongly recommended; cannot double count with ENSP Core.	
ENST452	Wetland Restoration	3	Sp	(BSCI160/161); and (BSCI362, ENST450, ENST360, or BSCI361)	
ENST423	Soil-Water Pollution	3	Sp	ENST200 and CHEM 231/232 or perm.	
ENST430	Wetland Soils	3	Sp	ENST 200	
ENST440	Crops, Soils, and Civilization	3	Sp		
ENST441	Sustainable Agriculture	3	Fa		
GEOG301	Adv Geographical Environmental Sys	3	Sp	GEOG 201/211	

GEOG417	Land Cover/Remotely Sensed Data Sets	3	varies	
GEOG441	The Coastal Ocean	3	Sp	GEOG 201/211
GEOL224	Observ/Measurements of the Natural World	3	varies	
GEOL340	Geomorphology	4	Sp	GEOL 100 or 120, GEOL110
GEOL346	Cycles in the Earth System	3	varies	
GEOL437	Global Climate Change: Past & Present	3	varies	
GEOL451	Groundwater	3	F	CHEM131/132, GEOL100 or 120, GEOL110
GEOL452	Watershed and Wetland Hydrology	3	F	CHEM131/132 & GEOL100/110 or perm.
GEOL453	Ecosystem Restoration	3	F	CHEM131/2, MATH 120 or 140; GEOL100, GEOL120, or ENST200
LARC450	Environmental Resources	3	F	ENST 200 or permission of dept.

>>> Area 3. Life Science At least 9 credits must be 300- or 400-level.

Course	Description	Cr	Offered	Prerequisites/Notes	Grade
BSCI207	Organismal Biology	4	Sp,Su,F	BSCI 170/171, BSCI 160/161, CHEM 131/132	
BSCI361	Principles of Ecology	4	Sp	BSCI 160/161 and Calculus	
BSCI363	Biol of Conserv and Extinction	3	F	BSCI 160/161	
BSCI370	Principles of Evolution	3	F	BSCI 160/161	
BSCI374	Mathematical Modeling in Biology	3	F	MATH131, MATH136, or MATH141.	
BSCI460	Plant Ecology	3	TBA	BSCI 160/161	
BSCI461	Plant Ecology lab	2	TBA	Pre- or corequisite: BSCI 460	
BSCI462	Population Ecology	3	F	BSCI 160/161 and MATH 220	
BSCI465	Behavioral Ecology	3	varies		
BSCI473	Marine Ecology	3	F	BSCI 207	
ENSP386	Internship	3	F,Sp,Su	May also use FGSM398	
ENST214	Intro to Fisheries and Wildlife Science	3	Sp	BSCI160/161	
ENST314	Fisheries Mgmt and Sustainability	3	Sp	Spring of "even" years (2016, 2018, etc.)	
ENST373	Natural History of the Ches Bay	3	F		
ENST403	Invasive Species Ecology	3	F		
ENST410	Ecosystem Services: Integ. Anal.	3	F	BSCI 361	
ENST450	Wetland Ecology	3	F	BIOM 301 or permission of dept.	
ENST456	Spatial Analysis & Ecological Sampling	3	F	GEOG306 & GEOG373 recommended, dept perm	
ENST460	Principles of Wildlife Mgmt	3	F	-	
ENST461	Urban Wildlife Management	3	F	-	
ENST464	Wildlife Habitat Modeling	3	Sp	BSCI361 and GEOG373	
ENST479	Trop Ecol and Resource Mgmt.	3	Sp		
GEOG342	Intro to Biogeography		Varie3s		
GEOG442	Biogeography	3	F	BSCI361 or GEOG301	
PLSC471	Forest Ecology	3	Sp	BSCI 160/161	

>>> Area 4. Preparation for Graduate Work in Environmental Economics: Mathematics, Theory, Econometrics.

Course	Description	Cr	Offered	Prerequisites/Notes	Grade
MATH240	Introduction to Linear Algebra	4	Sp, Su, F	MATH 141 or equivalent	
MATH241	Calculus III	4	Sp, Su, F	MATH 141 and MATH 240	
ECON325	Intermediate Macroeconomics	3	Sp, Su, F	ECON200, ECON201, and ECON300**	
ECON414	Game Theory	3	Sp, F	ECON306 and [ECON230 or	
				BMGT230]	
ECON422 or	Econometrics I	3	Sp,F	ECON 321 and [ECON325 or 326]	
AREC422	Econometric Applications		TBA	ECON 306 or AREC326	
ENSP386	Internship	3	F, Sp, Su	May use FGSM398 in its place	
STAT401	Applied Probability and Stat II	3	Sp, F	STAT 400	

^{**}ECON300 can be replaced with MATH241 + any statistics course